88888888888 888888888888 888888888888	В	AAAAAAA AAAAAAA AAAAAAA	4	\$	RRRR	RRRRRRR RRRRRRR RRRRRRRR		
888	BBB	ÄÄÄ	AAA	\$\$\$ \$\$\$	RRR	RRR RRR		LLL
888	888	AAA	AAA	SSS	RRR	RRR	ΪΪΪ	
888	888	ÄÄÄ	AAA	SSS	RRR	RRR	İİİ	
BB B	888	AAA	AAA	ŠŠŠ	RRR	RRR	ήήή	LLL
888	BBB	AAA	AAA	SSS	RRR	RRR	ŤŤŤ	iii
8888888888	В	AAA	AAA	SSSSSSSS		RRRRRRR	ŤŤŤ	ili
8888888888		AAA	AAA	ŠŠŠŠŠŠŠŠŠ		RRRRRRR	ŤŤŤ	iii
8888888888		AAA	AAA	SSSSSSSS		RRRRRRR	TTT	ΙΙΙ
BBB	888			\$\$\$	RRR	RRR	TTT	LLL
888	888	*********		ŞŞŞ	RRR	RRR	ŢŢŢ	LLL
888	BBB			SSS	RRR	RRR	ŢŢŢ	LLL
88 8	BBB	AAA	AAA	SSS	RRR	RRR	III	řřř
888	888	AAA	AAA	SSS	RRR	RRR	ŢŢŢ	iřř
888	BBB	AAA	AAA	222	RRR	RRR	ŢŢŢ	LLL
88888888888888888888888888888888888888		AAA	AAA	\$\$\$\$\$\$\$\$\$\$\$\$\$	RRR	RRR	ŢŢŢ	rrrrrrrrrrr
BBBBBBBBBBB		AAA	AAA	\$\$\$\$\$\$\$\$\$\$\$\$\$	RRR	RRR	!!!	
00000000000	D	AAA	AAA	SSSSSSSSSS	RRR	RRR	TTT	

88888888 88888888 88 88 88 88	AAAAA AA AA AA AA	\$	000000 00 00 00 00	PPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPP	NN NN NN NN NN NN NN NN NNNN NN NNNN NN DDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD	EEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEE	
		\$					



```
0001
                0002
                0004
                0005
                0006
                0007
                8000
                0009
10
                0010
11
                0011
12
13
14
15
16
17
                0012
                0014
                0015
                0016
                0017
18
                0018
19
                0019
212322222223333333333333
                0020
                0021
                0023
0023
                0024
                0025
                0026
                0027
                8500
                0029
                0030
                0031
                0032
                0033
                0034
                0035
                0036
                0037
                0038
                0039
                0040
41
                0041
42
                0042
44
                0044
                0045
46
                0046
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48
                0048
                0049
50
51
52
53
54
55
                0050
                0051
                0052
                0054
                0055
56
57
                0056
```

```
O MODULE BAS$$OPEN DEFLT (
                  IDENT = '1-041'
```

! File: BASOPENDE.B32 Edit:MDL1041

BEGIN

1 1

1 1.

1 🛊

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FACILITY: BASIC-PLUS-2 I/O Processing

ABSTRACT:

This module contains BAS\$\$OPEN_DEFLT, the routine which implicitly opens channel O for a BASIC-PLUS-2 program.

ENVIRONMENT: VAX-11 User Mode

AUTHOR: John Sauter, CREATION DATE: 30-NOV-78

MODIFIED BY:

1-001 - Original. JBS 30-NOV-78
1-002 - Change REQUIRE file names from FOR... to OTS...
1-003 - Use symbols for LUN values for PRINT and INPUT. JBS 07-DEC-78 1-004 - Change OPENSK symbols to LUBSK symbols. JBS 08-DEC-78
1-005 - Get LUBSK_PBUF_SIZ bytes for the prompt buffer. JBS 12-DEC-78
1-006 - REQUIRE BASOPN to get default record length. JBS 12-DEC-78
1-007 - Remove FILE_NAME_DESC, since BAS\$\$STOP_IO now gets the file
name from the LOB. JBS 12-DEC-78 1-008 - Use **REF to insure that the length argument to LIB**GET_VM is always a longword. JBS 12-DEC-78
1-009 - Set up FAB fields RFM and ROP. JBS 12-DEC-78
1-010 - Put attempted file name in the LUB in case the OPEN fails so badly that no name is returned. JBS 19-DEC-78 1-011 - Put OPEN or CONNECT error status in the RAB in case it is not

```
stored by the OPEN, CREATE or CONNECT call. JBS 19-DEC-78 1-012 - Set up margin and default margin. JBS 20-DEC-78 1-013 - Set record buffer size to the default if this is a new file.
 58
59
                  0059
 60
                  0060
 61
                  0061
                                             JBS 26-DEC-78
 62
                  0065
                                1-014 - Undo edit 11: make BAS$$STOP_IO extract the error code from
                  0063
                                             the FAB if it is not in the RAB. In support of this,
 64
                  0064
                                             we must tell BAS$STOP_IO whether the error happened on the
                  0065
                                             SOPEN (OR SCREATE) or the SCONNECT. JBS 27-DEC-78
                  0066
 66
67
                                1-015 - Open the terminal in CR format rather than PRN format. JBS 10-JAN-1979
                  0067
 68
                  0068
                                 1-016 - Set the TERM_FOR bit in the LUB to indicate terminal format.
                  0069
0070
 JBS 11-JAN-T979
                                1-017 - Signal Internal OTS failure rather than Program lost-Sorry
                                on an OPEN to a wrong logical unit number. JBS 15-JAN-1979
1-018 - Declare the OTS exit handler to purge I/O buffers and close the file. JBS 24-JAN-1979
                  0071
                  0072
                  0073
                  0074
                                 1-019 - Put two dollar signs on the non-user entry points. JBS 26-JAN-1979
                  0075
                                 1-020 - Don't set record size in RAB because reading an EOF will clear
                                it, even for fixed-length records. JBS 31-JAN-1979
1-021 - Set SQO, since we will perform only sequential operations on the PRINT and INPUT files. JBS 14-FEB-1979
                  0076
                  0077
 78
79
                  0078
                  0079
                                 1-022 - Use BASIDERR.REQ to define the I/O error codes. JBS 20-FEB-1979
                                1-023 - Set the margin based on the BLS field returned in the FAB by
 80
                  0080
 81
                                OPEN, if the device being opened is a terminal. JBS 22-FEB-1979 1-024 - Change BAS$$STOP to BAS$$STOP_IO, so that the channel number
                  0081
 82
83
                  0082
                  0083
                                             gets reported with the error message. JBS 17-APR-1979
                                1-025 - Do not set RAB$B_RAC, record level does. JBS 14-MAY-1979
1-026 - Make the margin T6 bits. JBS 30-MAY-1979
1-027 - Mark the LUBS OPENed as being terminal format. JBS 31-MAY-1979
 84
                  0084
 85
                  0085
 86
                  0086
 87
                                1-028 - Do not use locate-mode processing, since it causes problems for BAS$MARGIN. This is little loss, since RMS does not
                  0087
 88
                  0088
 89
                  0089
                                             really do locate-mode processing on process permanent files,
 90
                  0090
                                             and channel 0 normally refers to process permanent files. JBS 04-JUN-1979
 91
                  0091
 92
93
                  0092
                                1-029 - Set the language byte in the LUB, so this file can be
                  0093
                                             used only by BASIC programs. This is no loss, since these
 94
                  0094
                                             LUNs are only intended for use by BASIC anyway. JBS 30-JUN-1979
 95
                                1-030 - If the device is a terminal, change it to PRN format, so it can be forcible. JBS 10-JUL-1979
                  0095
 96
                  0096
 97
                                1-031 - If the LUB is opened with PRN format, mark it so. JBS 12-JUL-1979
1-032 - PRN format requires VFC. JBS 17-JUL-1979
1-033 - Change BAS$INPUT and BAS$PRINT to SYS$INPUT and SYS$OUTPUT.
JBS 30-JUL-1979
                  0097
 98
                  0098
 99
                  0099
100
                  0100
101
                  0101
                                1-034 - Use the BASIC-specific exit handler. JBS 17-AUG-1979
102
                                1-035 - Make the initial margin on disk files be LUB$K_D_MARGIN, and on
                  0102
                                terminals be infinite. JBS 24-AUG-1979
1-036 - Set up LUB$A_UBf. JBS 15-NOV-1979
1-037 - Don't set the CIF or EOF bits in the FAB and APPEND bits in the LUB.
DGP 26-Feb-80
                  0103
104
                  0104
105
                  0105
106
                  0106
107
                                1-038 - Set FAB$B_RAT and LUB$B_RAT so that BAS$REC_RSLO will add (R to records input from command files. PLL 18-Aug-81 1-039 - Don't set FAB$B_RAT, RMS sets it. PLL 19-Nov-81
                  0107
108
                  0108
109
                  0109
                                1-040 - LIBSSTOP should be declared EXTERNAL. PLL 20-Nov-81
110
                  0110
111
                  0111
                              ! 1-041 - only set PRN for the output side of channel 0. MDL 2-Sep-1983
112
                  0112
114
                          1 !<BLF/PAGE>
                  0114
```

```
0115
0116
0117
                       SWITCHES:
118
              119
SWITCHES ADDRESSING_MODE (EXTERNAL = GENERAL, NONEXTERNAL = WORD_RELATIVE);
                       ! LINKAGES:
                                                                           ! define linkages
                       REQUIRE 'RTLIN:OTSLNK':
                       ! TABLE OF CONTENTS:
                       FORWARD ROUTINE
                            BAS$$OPEN_DEFLT : CALL_CCB NOVALUE; ! Do a default open
                       INCLUDE FILES:
                       REQUIRE 'RTLIN:RTLPSECT';
                                                                           ! Macros for defining psects
                       REQUIRE 'RTLML:OTSLUB';
                                                                            ! Logical Unit Block definitions
                                                                            ! OPEN literals
                       REQUIRE 'RTLIN:BASOPN';
                                                                            ! Define I/O error codes
                       REQUIRE 'RTLIN:BASIOERR';
                       LIBRARY 'RTLSTARLE';
                                                                            ! system definitions
                         MACROS:
              0910
0911
0912
0913
                                NONE
                         EQUATED SYMBOLS:
              0915
                                NONE
              0916
                         PSECTS:
160
               0919
                       DECLARE_PSECTS (BAS);
                                                                           ! Declare psects for BAS$ facility
161
162
                         OWN STORAGE:
164
                                NONE
165
                         EXTERNAL REFERENCES:
166
167
168
169
170
                       EXTERNAL ROUTINE
                           LIBSSTOP: NOVALUE,
BASSSSTOP IO: NOVALUE,
LIBSGET_VM,
                                                                              signal fatal error
                                                                            ! signals fatal I/O error ! get virtual storage
171
172
```

BAS\$\$OPEN_DEFLT		1 7 16-Sep-1984 00:57:05 VAX-11 Bliss-32 V4.0-742 14-Sep-1984 11:56:23 [BASRTL.SRC]BASOPENDE.B32;1
: 173 093 : 174 093	BAS\$\$DECL_EXITH : NOVALUE;	! Declare BASIC exit handler
173 0933 174 093 175 0935 176 0935 177 0936 178 0935 179 0935	1 EXTERNAL 1 BAS\$\$L_XIT_LOCK;	! True if exit handler already declared
179 0930 180 0930 181 0940		odes used in this module.
180 0939 181 0940 182 0941 183 0941 184 0941 185 0944 186 0941 187 0946 188 0941	1 EXTERNAL LITERAL 1 BAS\$K_IO_CHAALR : UNSIGNED (8), 1 BAS\$K_SYNERR : UNSIGNED (8), 1 BAS\$K_FATSYSIO_ : UNSIGNED (8), 1 BAS\$K_FILATINOT : UNSIGNED (8), 1 BAS\$K_ILLUSA : UNSIGNED (8), 1 BAS\$K_MAXMEMEXC : UNSIGNED (8);	! I/O channel already open ! Syntax error ! Fatal system I/O error ! File attributes not matched ! Illegal Usage ! Maximum memory exceeded
189 0940 190 0940 191 0950 192 095) 1 EXTERNAL LITERAL) 1 OTS\$ FATINTERR:	! OTS Fatal internal error

```
16-Sep-1984 00:57:05
14-Sep-1984 11:56:23
```

J 7

```
0952
0953
                                 GLOBAL ROUTINE BAS$$OPEN_DEFLT
                                                                                                             ! Default open
195
                                        : NOVALUE (ALL_CCB =
                     0954
196
197
                     0955
                     0956
0957
198
                                    FUNCTIONAL DESCRIPTION:
199
200
                                             Do a default open. This routine is called when an input or output statement is done to channel 0 ( = a negative LUN) and it is not open. This routine opens the LUN as a terminal format
                     0958
                     0959
202
                    0960
0961
                                              file.
204
205
206
                    0962
                                    FORMAL PARAMETERS:
                     0964
207
208
                     0965
                                              NONE
                    0966
0967
                                    IMPLICIT INPUTS:
                     0968
                     0969
                                              The CCB, which is passed in a register.
                     0970
                     0971
                                    IMPLICIT OUTPUTS:
                    0972
0973
                                              A lot of fields in the LUB.
                     0974
                    0975
                                    ROUTINE VALUE:
                    0976
0977
                                    COMPLETION CODES:
                    0978
                                             NONE
                    0979
                    0980
                                    SIDE EFFECTS:
                    0981
                    0982
                                             Either opens a file, thus permitting use of channel 0 by BASIC I/O statements, or calls BAS$$STOP_IO, thus not
                    0983
                    0984
                                             returning to its caller.
                    0985
                    0986
                    0987
                    0988
                                       BEGIN
                    0989
                    0990
                                       EXTERNAL REGISTER
                    0991
                                             CCB : REF BLOCK [O, BYTE];
                    0992
                                       LOCAL
                                             OPEN_STATUS,

CONNECT_STATUS,

FAB_BLOCK: BLOCK [FAB$C_BLN, BYTE],

FAB: REF BLOCK [FAB$C_BLN, BYTE],

NAM_BLOCK: BLOCK [NAM$C_BLN, BYTE],

XAB_BLOCK: BLOCK [XAB$C_FHCLEN, BYTE],

Local NAM_block

FILE_NAME: BLOCK [NAM$C_MAXRSS, BYTE];

text for file name
                    0994
                                                                                                                RMS status returned by $OPEN or $CREATE
                     0995
                                                                                                                RMS status returned by $CONNECT
                    0996
0997
                    0998
0999
                     1000
                     1002
                                    In BASIC, only channel O can go through default open. This maps into one LUN for INPUT, LINPUT and INPUT LINE, and another LUN
                     1004
                                    for PRINT and PRINT USING. In the code below, we first do the common setups, and then a SELECTONE statement separates the
                     1005
                     1006
                                    setups for the two LUNs.
                     1008
```

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```
FAB = FAB_BLOCK;

CH$FILL (0, FAB$C_BLN, .FAB);

FAB [FAB$B_BID] = FAB$C_BID;

FAB [FAB$B_BLN] = FAB$C_BLN;

FAB [FAB$B_RFM] = FAB$C_VAR;

FAB [FAB$V_CR] = 1;

FAB [FAB$V_SQO] = 1;
251255
25345
25545
2556
2557
2559
                  1010
                                                                                                ! clea the FAB! this is a FAB
                  1011
                  1012
                                                                                                 ! length of a FAB
                                                                                                   Variable length records
                  1014
                                                                                                   Assume LF before record and CR after
                                                                                                ! Only sequential operations
                  1016
                             : Set up the LUB.
                  1018
260
                                  CCB [LUB$A_FAB] = .FAB;
CCB [LUB$V_FORMATTED] = 1;
CCB [LUB$L_LOG_RECNO] = 1;
CCB [LUB$B_ORGAN] = LUB$K_ORG_TERMI;
261
                  1019
                                                                                                ! Store FAB pointer in the LUB
                  1020
1021
1022
1023
1024
262
263
                                                                                                   This file must be formatted
                                                                                                   We are on record number 1
264
265
                                                                                                   terminal organization
                                   CCB [LUBSB RAT] = FAB [FABSB RAT];
                                                                                                ! store FAB record attribute
266
                             ! Set up the right margin and default right margin.
267
                  1025
                  1026
268
                                   CCB [LUB$W_D_MARGIN] = LUB$K_D_MARGIN;
CCB [LUB$W_R_MARGIN] = .CCB [LUB$W_D_MARGIN];
269
270
                  1028
                                   CCB [LUB$V_NOMARGIN] = 0;
CCB [LUB$V_UNIT_0] = 1;
CCB [LUB$V_TERM_FOR] = 1;
271
                  1029
272
273
                  1030
                                                                                                 ! This is BASIC channel O
                  1031
                                                                                                ! File is in terminal format
274
275
                  1032
                             ! Set up the RAB
276
277
                  1034
                  1035
                                   CCB [RAB$B_BID] = RAB$C_BID;
                                                                                                   This is a RAB
                  1036
278
                                   CCB [RAB$B_BLN] = RAB$C_BLN;
                                                                                                   Length of a RAB
279
                                   CCB [RAB$V LOC] = 0;
                                                                                                   Do not do locate-mode GETs
                          CCB [RAB$L_FAB] = ...

Set up the NAM block

CH$FILL (0, NAM$C_E

NAM_BLOCK [NAM$B_B]
280
                  1038
                                   CCB [RAB$L_FAB] = .FAB;
                                                                                                ! Store pointer to FAB
281
                  1039
282
283
                  1040
                  1041
                  1042
                                   CH$FILL (0, NAM$C_BLN, NAM_BLOCK);
NAM_BLOCK [NAM$B_BID] = NAM$C_BID;
284
                                                                                                ! Clear the NAM block
                                                                                                ! This is a NAM block
285
                                                                                                ! Length of a NAM block
                  1044
                                   NAM_BLOCK [NAM$B_BLN] = NAM$C_BLN;
286
287
                             ! Set up file name pointers and lengths
                  1046
288
289
290
291
292
293
294
295
                  1048
                                   NAM_BLOCK [NAM$L_RSA] = NAM_BLOCK [NAM$L_ESA] = FILE_NAME;
                                   NAM_BLOCK [NAMSB_RSS] = NAM_BLOCK [NAMSB_ESS] = NAMST_MAXRSS;
                  1049
                  1050
                                   FAB [FAB$L_NAM] = NAM_BLOCK;
                                                                                                ! Store pointer in FAB
                  1051
                             Initialize the FHC XAB.
                  1052
296
297
                                   CH$FILL (0, XAB$C_FHCLEN, XAB_BLOCK);
XAB_BLOCK [XAB$B_COD] = XAB$C_FHC;
XAB_BLOCK [XAB$B_BLN] = XAB$C_FHCLEN;
                  1054
                                                                                                   Clear XAB
                                                                                                   This is an FHC XAB
298
299
300
301
302
303
304
                  1056
1057
                                                                                                   Length of an FHC XAB
                                                                                                 ! Store pointer in FAB
                                   FAB [FAB$L_XAB] = XAB_BLOCK;
                  1058
                  1059
                                The remainder of the initialization is done differently depending
                  1060
                                on whether this is an input-type default open or an output-type
                  1061
                                default open.
                  1062
1063
305
306
                  1064
                                   SELECTONE (.CCB [LUB$W_LUN]) OF
307
                  1065
                                         SET
```

```
1066
309
310
              1067
                                [LUB$K_LUN_INPU] :
                                                                           ! INPUT statement
                                    BEGIN
311
              1069
312
313
314
              1070
                         Set up a file name of SYS$INPUT:SYSINPUT.DAT
              1071
                                   1072
315
316
317
              1074
              1075
1076
              1077
              1078
                                                                           ! Use prompt buffer on read
                    3 !+
3 !-
3 ! Point the RAB to the Prompt buffer.
3 ! It is allocated dynamically.
3 ! It must be deallocated when the file is closed.
3 !-
              1079
              1080
              1081
              1082
              1083
              1084
                                    BEGIN
              1085
              1086
                                    LOCAL
              1087
                                        GET_VM_RESULT;
              1088
              1089
                                    IF ( NOT (GET_VM_RESULT = LIB$GET_VM (%REF (LUB$K_PBUF_SIZ), CCB [RAB$L_PBF])))
              1090
              1091
                                        BAS$$STOP_IO (BAS$K_MAXMEMEXC);
              1092
              1093
                                    END:
              1094
                                    CCB
                                        [RAB$B_PSZ] = 0;
                                                                             Will be filled in as needed
                                   FAB [FAB$V_GET] = 1;

FAB [FAB$V_SHRGET] = 1;

CCB [LUB$V_READ_ONLY] = 1;

CCB [LUB$V_OLD_FILE] = 1;
              1095
                                                                             only allow reading from this LUN
              1096
                                                                             allow others to read also
              1097
                                                                             We will only read from this LUN
              1098
                                                                           ! file must already exist
              1099
                                    END:
              1100
              1101
                         Default OPEN for BASIC PRINT statement.
344
345
              1102
              1103
1104
                               [LUB$K_LUN_BPRI] : BEGIN
                                                                           ! PRINT statement
              1105
              1106
              1107
                         Set the file name to SYS$OUTPUT:SYSOUTPUT.DAT
              1108
                                   1109
              1110
              1111
              1112
              1114
              1115
                                                                           ! Only allow PUTs to this LUN
                                                                           ! no others may access this file
              1116
                                    FAB [FAB$V_NIL] = 1;
              1117
                                    END:
              1118
              1119
                                [OTHERWISE] :
                                    LIBSSTOP (OTSS_FATINTERR);
              1120
              1121
```

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; 365 1123 2 !<BLF/PAGE>

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```
1124
1125
1126
1127
1128
1130
1133
1133
1133
1133
1133
1133
368
                            Now open the file.
369
370
                              OPEN_STATUS = (IF (.CCB [LUB$V_OLD_FILE]) THEN $OPEN (FAB = .FAB) ELSE $CREATE (FAB = .FAB));
371
372
373
374
                           If the OPEN succeeded, check for a terminal format file on a terminal device,
                            and change to PRN format if so. This is so that the terminal is forcible.
375
376
377
378
379
                               IF (.OPEN_STATUS)
                              THEN
                                   BEGIN
380
                                   IF ((.FAB [FAB$L_DEV] AND DEV$M_TRM) NEQ 0)
381
382
383
                                   THEN
                                        BEGIN
                1140
384
                1141
385
                1142
                            only reset to PRN if this is the output side of channel 0.
386
                            an attempt to do so on a file opened for input results in an error from RMS.
                1144
387
388
                1146
389
                                        IF (.CCB [LUB$W_LUN] EQL LUB$K_LUN_BPRI)
                                        THEN
390
391
                1148
                                             BEGIN
392
393
                1149
                1150
               1151
1152
1153
394
                           Close and re-open the FAB, since we do not have $MODIFY.
395
396
397
                1154
                                             IF ( NOT $CLOSE (FAB = .FAB)) THEN BAS$$STOP_IO (BAS$K_IOERR_RE();
398
                1155
399
                1156
1157
                         ! Turn off CR and turn on PRN.
400
401
                1158
402
                1159
                                             FAB [FAB$V_CR] = 0;
                                             FAB [FAB$V PRN] = 1;
CCB [RAB$L RHB] = CCB [LUB$W_BAS_VFC];
403
                1160
404
                1161
                1162
1163
405
                                             FAB [FAB$B]RFM] = FAB$(_VFC;
406
                1164
1165
                            Re-open the user's file.
408
                1166
1167
409
                                             OPEN_STATUS = SOPEN (FAB = .FAB);
410
411
                1168
412
                1169
1170
                          ! indicate a terminal device is forcib : (both input & output sides)
                1171
414
                1172
415
                                        (CB [LUB$V_FORCIBLE] = ,
416
                                        END:
                1174
418
                                   END:
                1176
                       IF (.OPEN_STATUS) THEN CONNECT_STATUS = $CONNECT (RAB = .LLB/;

!+
2 ! Store away the Directory ID in case CLOSE needs to delete the file.
420
421
422
423
                1177
                1178
                1179
```

```
1182
                            CH$MOVE (NAM$S_DID, NAM_BLOCK [NAM$W_DID], CCB [LUB$W_DID]);
              1184
                           CCB [LUB$W_IFI] = .FAB [FAB$W_IFI];
              1185
                       If we have an expanded name string or a resultant name string, point
              1186
              1187
                         the LUB to it instead of the user-supplied name, to improve error
              1188
                         messages.
              1189
              1190
              1191
                            IF (.NAM_BLOCK [NAM$B_RSL] NEQA 0)
              1192
                           THEN
                                BEGIN
              1194
                                CCB [LUB$A_RSN] = .NAM_BLOCK [NAM$L RSA]:
              1195
                                CCB [LUB$B]RSL] = .NAM]BLOCK [NAM$B]RSL];
              1196
                                END
440
              1197
                           ELSE
442 443 445
              1198
              1199
                                IF (.NAM_BLOCK [NAM$B_ESL] NEQA 0)
              1200
                                THEN
              1201
                                    BEGIN
              1202
                                    CCB [LUB$A_RSN] = .NAM_BLOCK [NAM$L_ESA];
446
                                    CCB [LUB$B_RSL] = .NAM_BLOCK [NAM$B_ESL];
447
              1204
                                    END:
448
              1205
449
              1206
              1207
450
451
453
455
456
457
                       ! If OPEN or CREATE gut an error, give an appropriate error message.
              1208
              1209
1210
1211
                           IF ( NOT .OPEN_STATUS) THEN BAS$$STOP_IO (BAS$K_IOERR_OPE);
              1212
                       ! If CONNECT got an error, give an appropriate error message.
              1214
458
459
              1216
                           If ( NOT .CONNECT_STATUS) THEN BAS$$STOP_IO (BAS$K_IOERR_CON);
460
              1218
461
462
                         If the device opened is a terminal, set the TERM_DEV bit in the LUB
              1220
1221
1222
1223
1224
1225
463
                         and set the default margin based on the width of the terminal, which is
464
                         returned in the BLS field of the FAB.
465
466
467
                            IF ((.FAB [FAB$L_DEV] AND DEV$M_TRM) NEQ 0)
468
                           THEN
469
                               BEGIN
                               CCB [LUB$V_TERM_DEV] = 1;
CCB [LUB$W_D_MARGIN] = .FAB [FAB$W_BLS];
CCB [LUB$W_R_MARGIN] = 0;
470
471
472
473
                                CCB [LUB$V_NOMARGIN] = 1;
474
                                END:
475
476
                       ! If the file just opened was already in existence, perform
478
              1235
                         consistency checks between the file's attributes and the
479
                         default parameters.
480
```

B 8

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```
IF (.CCB [LUB$v_OLD_FILE])
                             BEGIN
                       Organization check: must be sequential.
                              IF (.FAB [FAB$B_ORG] NEQ FAB$C_SEQ) THEN BAS$\STOP_IO (BAS$K_FILATTNOT);
                      ! If the file is in PRN format, record the fact.
                              IF (.FAB [FAB$v_PRN]) THEN CCB [LUB$v_PRN] = 1;
                       Compute the record size and store it in the LUB.
                             CCB [LUB$W_RBUF_SIZE] = MAXU (.fAB [fAB$W_MRS], .xAB_BLOCK [XAB$W_LRL], BAS$K_DEF_RECLE);
                                                                       ! end of old file processing
                         ELSE
                             BEGIN
                       The following processing is done only if this is a new file.
                       Set the record buffer size to the default.
                             CCB [LUB$W_RBUF_SIZE] = BAS$K_DEF_RECLE;
! end of new file processing
                       Don't permit the 'undefined' record format, since it can be used
                       only with block I/O.
SELECTONE (.FAB [FAB$B_RFM]) OF
                              [FAB$C_FIX, FAB$C_VAR, FAB$C_VFC] :
                                                                      ! ok, do nothing.
                              [OTHERWISE] :
                                  BAS$$STOP_IO (BAS$K_ILLUSA);
                              TES:
             1286
                      ! Allocate a record buffer.
             1287
             1288
                         BEGIN
             1289
             1290
             1291
                              GET_VM_RESULT;
             1292
1293
1294
536
                          GET_VM_RESULT = LIB$GET_VM (%REF (.CCB [LUB$W_RBUF_SIZE]), CCB [LUB$A_RBUF_ADR]);
```

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```
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```

```
1295
1296
1297
1298
1299
1300
538
539
                               IF ( NOT .GET_VM_RESULT) THEN BAS$$STOP_10 (BAS$k_MAXMEMEXC);
540
                              END:
541
542
543
                            Allocate dynamic storage for the file name so that the name can be
                            used later for error diagnostics. Point the LUB to the new location.
544
                1301
                            Indicate that the space pointed to must be deallocated when the file
                1302
1303
1304
1305
1306
1307
545
                         ! is closed.
546
547
                              BEGIN
548
549
                              LOCAL
550
                                   GET VM RESULT.
551
552
553
                1308
                                   OLD_ADDRESS;
                1309
                1310
                              OLD ADDRESS = .CCB [LUB$A RSN]:
554
555
                1311
                              GET_VM_RESULT = LIB$GET_VM (%REF (.CCB [LUB$B_RSL]), CCB [LUB$A_RSN]);
                1312
556
                              IF ( NOT .GET_VM_RESULT) THEN LIB$STOP (.GET_VM_RESULT);
557
                1314
558
                1315
                              CH$MOVE (.CCB [LUB$B_RSL], .OLD_ADDRESS, .CCB [LUB$A_RSN]);
559
                1316
                              CCB [LUB$v_vIRT_RSN] = 1;
                1317
560
                              END:
561
                1318
                1319
562
                           Set those RAB fields that seldom change.
563
                              CCB [RAB$L_UBf] = .CCB [LUB$A_RBUf_ADR];
CCB [RAB$W_USZ] = .CCB [LUB$W_RBUf_SIZE];
CCB [LUB$A_UBf] = .CCB [LUB$A_RBUf_ADR];
564
                1321
                1322
565
566
                1324
1325
567
568
                          ! Clear LUB$A_FAB to indicate that the FAB is no longer present.
                1326
1327
569
570
                              CCB [LUB$A_FAB] = 0;
                1328
1329
1330
571
572
573
                           Indicate that the file is now open for BASIC.
574
                1331
                              CCB [LUB$B_LANGUAGE] = LUB$K_LANG_BAS;
575
                1332
                              CCB [LUB$v_OPENED] = 1;
576
577
                1334
                            Declare the BASIC exit handler to purge I/O buffers and close the
               1335
578
579
                          ! file when the image exits.
                1336
1337
580
581
582
583
584
                1338
1339
                               IF ( NOT BAS$$L_XIT_LOCK) THEN BAS$$DECL_EXITH ();
                1340
1341
                               RETURN:
                               END:
                                                                                    ! of routine BAS$$OPEN_DEFLT
                                                                                                BASSSOPEN_DEFLT
                                                                                       .TITLE
                                                                                                11-041
                                                                                       . IDENT
                                                                                       .PSELT
                                                                                                _BAS$CODE,NOWRT, SHR, PIC,2
                                                           59
59
59
                                                                53
53
53
                              54 55 50 4E
55 50 4E 49
55 50 4E 49
                                                  49
24
24
                                                      53
53
53
                                                                      00000 P.AAA:
                                                                                                \SYSINPUT.DAT\
                                                                                       .ASCII
                    44
3A
3A
                         2E
54
54
                                                                     0000C P.AAB:
                                                                                       .ASCII
                                                                                                \SYS$INPUT:\<0><0>
                                                                      00018 P.AAC:
                                                                                       .ASCII
                                                                                                \SYS$INPUT:SYSINPUT.DAT\<0><0>
```

BAS 1-0	\$\$0PI 41	EN_D	EFLT												E 8 16-Sep-19 14-Sep-19	84 00:57 84 11:56	7:05 VAX-11 Bliss-32 V4.0-742 Page 6:23 [BASRTL.SRC]BASOPENDE.B32;1 (13
00 4F	00 53	54 59	41 00 53	44 3A 3A	2E 54 54	00 54 55 55 54	00 55 50 50 41	54 50 54 54	41 54 55 55 2E	44 55 4F 4F 54	2E 4F 24 255	54 53 53 53 50	55 59 59 59 54	50 53 05 53 55 55	00027 00030 P.AAD: 0003F 00040 P.AAE: 0004C P.AAF: 0005B	.ASCII .ASCII	\SYS\$OUTPUT:\<0><0><0> \SYS\$OUTPUT:\<0> \SYS\$OUTPUT:SYSOUTPUT.DAT\	
																EXTRN EXTRN EXTRN EXTRN EXTRN EXTRN EXTRN EXTRN EXTRN EXTRN EXTRN	LIBSSTOP, BASSSSTOP IO LIBSGET VM, BASSSDECL EXITH BASSSL XIT LOCK BASSK_TO CHAALR BASSK_SYNERR, BASSK_FATSYSIO_ BASSK_FILATINOT BASSK_ILLUSA, BASSK_MAXMEMEXC OTSS_FATINTERR, SYSSOPEN SYSSCREATE, SYSSCLOSE SYSSCONNECT	
	005	0	8F			00				5E 56 6E	F	E 20 B0	CE AD OO	9E 9E	00000 00002 00007 0000B	.ENTRY MOVAB MOVAB MOVC5	R9,R10; -480(SP), SP; FAB_BLOCK, FAB; 10)52)09)10
								1 OE OECFDDA	F 4 8 1 0 4	66 66 66 65 66 66 67 68 68 68 68 68		003 1E 40 FC 48 D6 FE 90 401	68262F6B1149FB2BFF1	98880 9880 980 9980 980	00018 0001C 00020 00023 00028 0002C 00030 00034 00038 0003C	MOVW MOVAB BISB2 BISB2 MOVL MOVAB BISB2 MOVB MOVB MOVB MOVB MOVB MOVB MOVB MOVB	#2, 31(FAB) 30(FAB), R9 #2, (R9) #64, 4(FAB) FAB, -24(CCB) -4(CCB), R7 #1, 1(R7) #1, -32(CCB) #4, -60(CCB) 10)11)13)14)15)19)20)21)223)237)228)239)331
	006	0	8f			00	ı	3		6B AB AB 6E	F	F 50	56	20	00063 0006A	MOVU BICB2 MOVC5	FAB, 60(CCB) #0, (SP), #0, #96, NAM_BLOCK 10	37 38 42 43
			2 C			00	,	FF5 FF5 FF5 FF5 FF5 2	C 4 A 2 8	CD CD CCD CCD CA6 CD A6E CA650	F F 2	F 50 F 24 C 1D F 24 C 6	00 BF AE 550 01 CO C BF C AB	90 8E 9E 2C 80 9E	0006D 00074 00078 0007D 00082 00087 0008C 00092 00097 0009A 000A1	MOVW MOVAB MOVL MNEGB MNEGB MOVAB MOVAB MOVAB CVTWL	FILE NAME, RO RO, RAM_BLOCK+12 RO, NAM_BLOCK+4 #1, NAM_BLOCK+10 #1, NAM_BLOCK+2 NAM_BLOCK, 40(FAB) #0, (SP), #0, #44, XAB_BLOCK 10	49 150 157 164

						16-Sep- 14-Sep-	-1984 00:57 -1984 11:56	: 05 : 23	VAX-11 Bliss-32 V4.0-742 [BASRTL.SRC]BASOPEND5.B32;1	Page 14 (4)
	FFF9	8F		50	B1 000	AB	CMPW	RO. #		; 1067
	30 34 20 F7	A6 A6 AB	FEE6 OCOA FEE6	4F CF 8F CF 16	12 000 9E 000 B0 000 9E 000 90 000	B2 B8 BE C4	BNEQ MOVAB MOVW MOVAB MOVB	2\$ P.AAA #3082 P.AAB #22,	. 48(FAB) . 52(FAB) . 44(FAB) -9(CCB) 8(CCB) 7(CCB)	1073 1074 1075 1076
	F 8 07	AB AB	FEE8 40	CF 8F	9E 000 88 000	CE	MOVAB BISB2	P.AAC	-8(CCB) 7(CCB)	; 1077 ; 1078
	04	AE	30 50 04	AB 3f AE	9F 000 9A 000 9F 000	D6	PUSHAB MOVZBL PUSHAB	#80, 4(SP)	4(3P)	1089
	0000000G	00 08		02 50	FB 000 E8 000	DE E5	CALLS	#2, L GET_V	IB\$GET_VM M_RESU[T, 1\$	
	0000000G	7E 00	00G	8F 01	9A 000 FB 000	E8 EC	MOVZBL Calls	#BASS	K_MAXMEMÉXC, -(SP) AS\$\$STOP_IO B)	1091
	16	A6 67	0202	AB 8F	94 000 A8 000 88 000	F6	CLRB BISW2 BISB2	W514,	22(FAB)	: 1094 : 1096
	FFF8	8F		0C 38 50	11 000 B1 001	FF	BRB (MPW	#12, 4 \$ RO, #		: 1098 : 1064 : 1104
	30	A6	FECO	24 CF	12 001 9E 001	06 08	BNEQ MOVAB	3\$. 48(FAB) . 52(FAB)	: 1110
	34 20 F 7	A6 A6 AB	ODOB FEC4	8F CF 18	BO 001 9E 001	14	MOVW MOVAB	P.AAE	. 44(FAB)	; 1111 ; 1112
	F8 16	AB A6	FEC6 2001	CF 8F	90 001 9E 001 A8 001 11 001	1E 24	MOVB MOVAB BISW2	P. AÁF #8193	-9(CCB) ,-8(CCB) ,22(FAB)	; 1113 : 1114 : 1116
			0000000G	0D 8F	11 001 DD 001	2A 2C 3 S :	BRB PUSHL	4\$ WOTS\$	FATINTERR	: 1064 : 1120
0B	0000000G	00 67		01 03 56	DD 001 FB 001 E1 001	32 39 4 \$:	CALLS BBC BUSHI	#3, (TB\$STOP R7), 5\$	1127
	0000000G	00		01 09	DD 001 FB 001 11 001	3F 46	PUSHL CALLS BRB	FAB #1, S	YS\$OPEN	
	0000000G	00 5 A 51		56 01 50 5A	DD 001	48 55:	PUSHL CALLS MOVL BLBC	FAB #1, S RO. 0	YS\$CREATE PEN_STATUS STATUS 10\$	1133
3 D	40 FFF8	A6 8F	C6	02 AB 31	DO 001 E9 001 E1 001 B1 001 DD 001 FB 001 FB 001 FB 001 FB 001	57 50 62	BBC CMPW BNEQ	#2, 6 -58(C 8\$ FAB	STATUS, 10\$ 4(FAB), 9\$ (B), #-8	: 1137 : 1146
	0000000G	00 0A 7E		56 01 50 01	DD 0016 FB 0016 E8 0016	64 66 60 70	PUSHL CALLS BLBS MNEGL	#1. S	YS\$CLOSE \$ (SP) AS\$\$STOP_IO	1154
	0000000G	00 69 69		01 02 04	FB 001 8A 001 88 001	73 7A 7 S :	CALLS BICB2 BISB2	#2, (ÀS\$\$STOP_IO R9) R9)	1159 1160
	2C 1F	AB A6	DA	AB 03 56	9E 001	80 85 89	MOVAB MOVB PUSHL	-38(R	11), 44(CCB) 1(FAB)	1161 1162 1166
	0000000G	00 5A 68 00	40	01 50 8F 5A	9E 001 90 001 DD 001 FB 001 D0 001 88 001	88 92 95 85: 99 95:	CALLS MOVL BISB2 BLBC	#1. S RO, O #64. OPEN	YS\$OPEN PEN_STATUS (R8) STATUS, 10\$	1172 1177
	0000000G	00		5B 01	DD 001 FB 001	9E	PUSHL CALLS	W1, S	YS\$CONNECT	•

							G 8 16-Sep- 14-Sep-	-1984 00:57 -1984 11:56	:05 VAX-11 Bliss-32 V4.0-742 :23 [BASRTL.SRC]BASOPENDE.B32;1	Page 15 (4)
FO	AB	FF7A DO	6E CD AB 50	02 FF53	A6 B CD 9	0 001 8 001 0 001 A 001	A5 A8 10\$: AF B4	MOVL MOVC3 MOVW MOVZBL	RO, CONNECT STATUS #6, NAM_BLOCK+42, -16(CCB) 2(FAB), -48(CCB) NAM_BLOCK+3, RO	; 1183 ; 1184 ; 1191
		F8	AB 50	FF54	CD D OD 1	3 0011 0 0011 1 001 A 001	B9 BB C1 C3 11 \$:	BEQL MOVL BRB MOVZBL	11\$" NAM_BLOCK+4, -8(CCB) 12\$" NAM_BLOCK+11, RO	: 1194 : 1195 : 1199
		F 8 F 7	AB AB		OA 1 CD D 50 9	3 001 0 001 0 001	C8 CA DO 12\$:	BEQL Movl Movb	13\$" NAM_BLOCK+12, -8(CCB) RO, -9(CCB)	1202 1203
		0000000G	0A 7E 00 0A		02 C 01 F	8 0011 E 0011 B 0011 8 0011	D7 D A	BLBS MNEGL CALLS BLBS	OPÉN_STATUS, 14\$ #2, =(SP) #1, BAS\$\$STOP_IO CONNECT_STATUS, 15\$	1210
1	OF	00000000G	7E 00 A6 68		03 C 01 F 02 E	F 001	E4 E7 EE 15\$:	MNEGL CALLS BBC	#3, -(SP) #1, BAS\$\$STOP_IO #2, 64(FAB), T6\$ #32, (R8)	1224
		D6 A1	AB AB	3C D4	A6 B AB B	0 001 4 001 8 001	F6 FB FE	BISB2 MOVW CLRW BISB2	60(FAB), -42(CCB) -44(CCB) #2, -95(CCB)	; 1227 ; 1228 ; 1229 ; 1230
	39		67	10	A6 9 OB 1	1 0020 5 0020 3 0020	02 16 \$: 06 09	BBC TSTB BEQL	#3, (R7), 21\$ 29(FAB) 17\$	1239
(04	0000000G A1	7E 00 69 AB 50		01 F 02 E 01 8	8 002	OF 16 17\$: 1A	MOVZBL CALLS BBC BISB2	#BAS\$K_FILATTNUT, -(SP) #1, BAS\$\$STC #2, (R9), 18\$ #1, -95(CCB)	1252
			50 50 50	FF2E	CD B 05 1	B 0027	22 27	MOVZWL CMPW Blequ	54(FAB), RO XAB_BLOCK+10, RO 19\$	1257
		0084	8F 50 AB		50 B	1 002 E 002 A 002	2E 19\$: 33 35	MOVZWL CMPW BGEQU MOVZBL	XAB_BLOCK+10, RO RO, #132 20\$ #132, RO	
		D2 D2	AB 50	84	50 B 05 1	0 002 1 002 B 002	39 20 \$:	MOVW Brb Muvzbw	RO, -46(CCB) 22\$ #132, -46(CCE)	1239 1267
			03		05 1 50 9 0B 1	5 002	ሬ ደ	MOVZBL BLEQ CMPB BLEQU	31(FAB), RO 23\$ RO, #3 24\$	1275 1278
		00000000G 04	7E 00 AE		01 F	A 0026 B 0026 C 0026	4A 4D 4F 23\$: 5A 24\$:	MOVZBL CALLS PUSHAB MOVZWL	#BAS\$K_ILLUSA, -(SP) #1, BAS\$\$STOP_IO -20(CCB) -46(CCB), 4(SP)	1282 1293
		000000006	00 0B 7E		AE 9 02 f 50 E	F 0020 B 0020 8 0020	62 65 60	PUSHAB CALLS BLBS	4(SP) #2. LIB\$GET VM	1295
		0000000G	7E 00 52	F8	AB D	B 002	5F 73 7A 25\$: 7E 81	MOVZBL CALLS MOVL PUSHAB	GET VM_RESULT, 25\$ #BAS\$K_MAXMEMEXC, -(SP) #1, BAS\$\$STOP_IO -8(CCB), OLD_ADDRESS -8(CCB)	1310 1311
		04 00000000G	AE 00	04	AB 9 AE 9	A 0021 F 0021 B 0021	81 86 89	MOVZBL PUSHAB CALLS	-9(CCB), 4(SP) 4(SP) #2, LIB\$GET_VM	

BASSSOPEN_DEFLT			H 8 16-Sep-1984 00:57 14-Sep-1984 11:56	•	Page 16 (4)
f 8	00000000G BB 24 20 90 D8 00000000G	09 50 00 01 50 F7 AB 62 50 68 01 AB EC AB AB D2 AB EB AB EB AB 01 67 01 50 000000000 00 07 00	E8 00290 DD 00293 FB 00295 9A 0029C 26\$: MOVZBL 28 002A0 88 002A5 DO 002A8 BO 002AD DO 002B2 D4 002B7 90 002BA 88 002BE 9E 002C1 E8 002C8 FB 002CB 04 002D2 27\$: RET	GET_VM_RESULT, 26\$ GET_VM_RESULT #1, LIB\$STOP -9(CB), R0 R0, (OLD_ADDRESS), a-8(C(B) #1, (R8) -20(C(B), 36(C(B)) -46(C(B), 32(C(B)) -20(C(B), -100(C(B)) -24(C(B)) #1, -40(C(B)) #1, -40(C(B)) #1, (R7) BAS\$\$L_XIT_LOCK, R0 R0, 27\$ #0, BAS\$\$DECL_EXITH	1313 1315 1316 1321 1322 1323 1327 1331 1332 1338
: Routine Size: 723 by : 585	tes, Routine	Base: _BAS\$CODE	+ 0064	module BAS\$\$OPEN_DEFLT	; 1341
587 1344 1 588 1345 0	ELUDOM				

PSECT SUMMARY

Name
Bytes
Attributes

_BAS\$CODE
823 NOVEC,NOWRT, RD , EXE, SHR, LCL, REL, CON, PIC,ALIGN(2)

Library Statistics

File Symbols ------ Pages Processing Total Loaded Percent Mapped Time \$255\$DUA28:[SYSLIB]STARLET.L32:1 9776 66 0 581 00:01.1

COMMAND QUALIFIERS

BLISS/CHECK=(FIELD,INITIAL,OPTIMIZE)/NOTRACE/LIS=LIS\$:BASOPENDE/OBJ=OBJ\$:BASOPENDE MSRC\$:BASOPENDE/UPDATE=(ENH\$:BASOPENDE

VAX-11 Bliss-32 V4.0-742

: Size: 723 code + 100 data bytes
: Run Time: 00:20.1
: Elapsed Time: 00:47.0
: Lines/(PU Min: 4006
: Lexemes/(PU-Min: 28838
: Memory Used: 270 pages
: Compilation Complete

0029 AH-BT13A-SE

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